

OESER PROPOSED PLAN

U.S. Environmental Protection Agency (EPA)

December 2002

INTRODUCTION

The Oeser Company is an operating wood treating facility located in Whatcom County and the City of Bellingham near Little Squalicum Creek (see **Figure 1**). Wood-treating wastes and contamination, including polynuclear aromatic hydrocarbons (PAHs), Pentachlorophenol (Penta), and dioxins/furans, were the primary contaminants found and studied at the site. This proposed plan identifies EPA's preferred alternative (Alternative 6: Capping and Excavation) for cleaning up contamination at the Oeser Company Superfund site. In addition, this plan provides information and rationale used to select the preferred alternative and summarizes other alternatives that were fully evaluated during the Remedial Investigation and Feasibility Study (RI/FS) conducted by EPA. EPA is the lead agency for the site and the Washington State Department of Ecology (Ecology) is the support agency.

Contents of this Plan

- Introduction
- Site Background
- Site Characteristics
- Scope and Role
- Summary of Site Risks
- Remedial Action Objectives
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- Preferred Alternative
- Community Participation

Public Comment Period the Oeser Proposed Plan

As stated in a related fact sheet, the U.S. Environmental Protection Agency (EPA) will accept written comments on the proposed plan until January 24, 2003. Written comments should be addressed to:

Loren McPhillips
EPA Project Manager
1200 6th Avenue, ECL-115
Seattle, Washington 98101

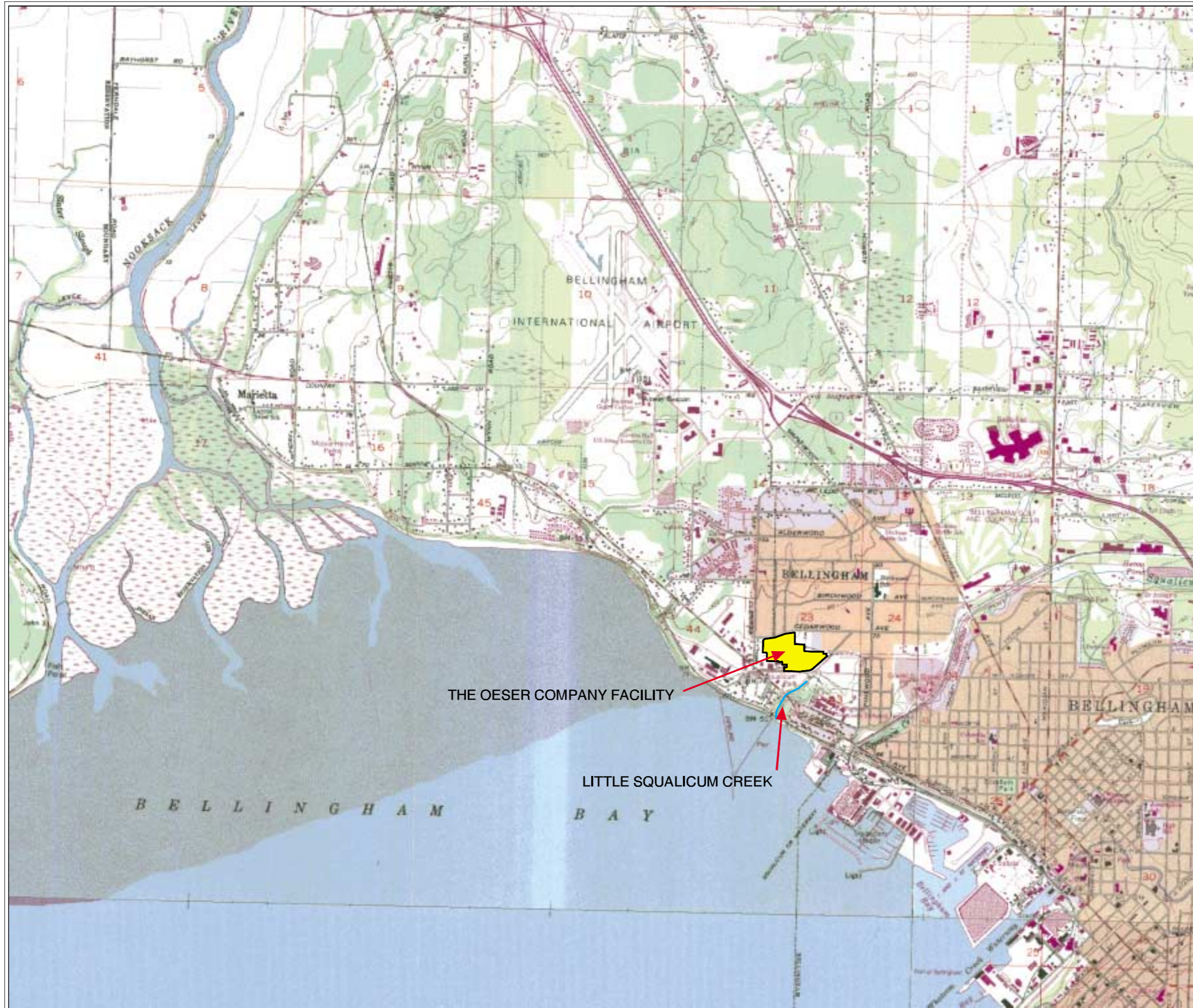
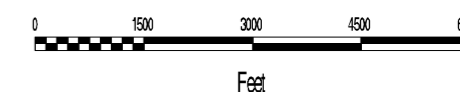
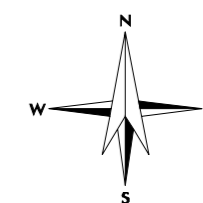


Figure 1

THE OESER COMPANY SUPERFUND SITE

Bellingham, Washington

Site Location Map



MAP SOURCE

USGS Topographic Maps. Scale 1:24000
Eliza Island Quadrangle, 1997
Bellingham South Quadrangle, [1954], 1972b
Bellingham North Quadrangle, [1954], 1972a
Ferndale Quadrangle, [1954], 1994



ecology and environment, inc.
International Specialists in the Environment
Seattle, Washington

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At a public meeting on January 15, 2003, EPA will give a short presentation, about the proposed plan followed by an opportunity for questions and answers. A court reporter will be on hand to record comments.

Where: Shuksan Middle School Auditorium
2713 Alderwood, Bellingham, WA
Tel. (360) 676-6454

When: January 15, 2003 7:00 P.M.-9:00 P.M.

For More Information Copies of documents that were used to develop this plan, including the Remedial Investigation Report, Feasibility Study Report and other information about the Oeser Superfund Site cleanup can be reviewed at the Bellingham Public Library or by contacting Lilibeth Serrano-Velez, EPA Community Relations Coordinator at 1-800-424-4372 or 206-553-1388.

Information about the Oeser Superfund Site is available on EPA's website by going to www.epa.gov/r10earth, then click on the index and Oeser.

SITE BACKGROUND

On October 27, 1997, the Oeser Company Site was added to EPA's Superfund National Priorities List because significant amounts of contamination were found on the facility. The Oeser Company has operated as an active wood-treating facility since the mid-1940s. The 26-acre site is located in Whatcom County, Washington approximately 1,500 feet north of Bellingham Bay (see [Figure 1](#)). A small portion of the site is located within the City of Bellingham city limits.

During the early days of operation, the company manufactured poles for utility companies using creosote as a wood preservative. In the mid-1980s, the company ceased using creosote at the facility. Pentachlorophenol (Penta) currently is the only preservative in use at the facility. Water-based preservatives such as chromated copper arsenates (CCA) never were used at the Oeser Company facility.

As an active wood treating facility (see [Figure 2](#)), the Oeser Company is subject to a number of regulatory requirements, including but not limited to, the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act (RCRA), and the State of Washington Dangerous Waste requirements. On June 17, 2002, EPA issued a Notice of Violation (NOV) to the Oeser Company regarding its failure to comply with certain RCRA operating requirements. The company prepared a response to the NOV. EPA follow-up action is pending. The Oeser Company is still subject to these requirements regardless of the remedy implemented at the site.

The Oeser Company also discharges treated stormwater to nearby Little Squalicum Creek. Stormwater discharged from the Oeser Company has been regulated by a series of permits since the early 1960s. The discharge is currently subject to a National Pollution Discharge Elimination



System (NPDES) permit issued by the Washington State Department of Ecology. This permit places wastewater discharge limits on several parameters including Penta. The City of Bellingham and Whatcom County also use Little Squalicum Creek and ravine as an outlet for their neighborhood storm drain systems.

The Northwest Air Pollution Authority regulates the Oeser Company for visual emissions, discharge of odor-producing air contaminants, and fugitive dust emissions.

Early Cleanup Activity

When necessary to protect human health and the environment, EPA will take early action to clean up major problem areas at a Superfund site. EPA conducted such an early action at Oeser from September 1997 through November 1998. The most contaminated soils at the facility were found near a dry well located just east of the treatment area. After removing contaminated soil to a depth of twenty feet, approximately 8,500 tons of soil and approximately 27,000 gallons of liquid wastes were transported off-site for treatment and disposal. The excavated area was then backfilled with clean material before being capped. Asphalt and gravel caps were also placed over approximately four acres of other areas of concern to protect workers and trespassers (see [Figure 3](#)). In December 1998, under the direction and oversight of EPA, the Oeser Company also removed approximately 23,000 gallons of creosote product from the site.

SITE CHARACTERISTICS

The 26-acre Oeser site has been used in the treatment and production of wood utility poles since the 1940s. As a result, surface soil, subsurface soil, surface water, sediment, groundwater and air were all potential media that needed to be investigated to determine if contamination might be present. During the past twenty years, several state and federal agencies have collected information about soil, water, and air at the Oeser Company site, but additional information was needed to make informed cleanup decisions.

A large number of samples were collected during the Remedial Investigation (RI) in 1999 to fill various data gaps. This included sampling for dioxins/furans, Penta and polynuclear aromatic hydrocarbons (PAHs), which are common contaminants found at wood treating facilities. Sampling of surface soils, subsurface soils, groundwater and air was conducted on the Oeser property and nearby areas. The nearby areas included residences, the South Slope, Little Squalicum Creek, and a background area located between 0.6 and 1.6 miles east of the Oeser property. Samples were also collected to provide valuable information concerning levels of contamination that may be present in nearby wildberries.

In addition to the presence or absence of contamination, EPA carefully looked at several different ways that people or wildlife might be exposed to contamination from the Oeser site. Contaminants in surface soil may be released into the air as vapor or be dispersed by wind as dust particles. They may be carried away from the site as runoff after a rainstorm or may soak into the soil and then move into the groundwater. Contaminated groundwater flowing toward Little Squalicum Creek potentially may be released into the creek.

Figure 3

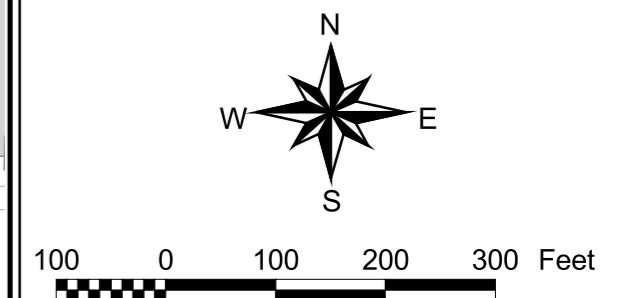
THE OESER COMPANY
SUPERFUND SITE

Bellingham, Washington

Early Cleanup Actions

Legend

- Railroad
 - Oeser Facility Layout
 - Oeser Facility Areas
 - Buildings
- Removal Action Areas
- Removal Action Excavation
 - Removal Action Cap
 - Gravel Cap



Within the boundaries of the Oeser property, elevated levels of contamination were detected in surface and subsurface soil, groundwater, and air. Some of the same contaminants were detected at lower levels in soil, groundwater, air, sediments, surface water, and berries from the surrounding area.

Surface soil: Surface soil samples were collected from areas within the Oeser property, as well as from nearby areas, which included nearby residences, the South Slope, Little Squalicum Creek, and a background area located between 0.6 and 1.6 miles east of the facility. Concentrations of PAHs exceeded cleanup levels only within the Oeser property boundaries. While penta was found on the Oeser property at concentrations above the cleanup levels, it was almost completely absent from the nearby residential area. In addition, the concentration of dioxins in nearby areas was found to be statistically similar to background concentrations.

Subsurface soil: Subsurface soil samples were collected and analyzed from the Oeser property, the South Slope Area, and the Little Squalicum Creek area. In general, contaminant concentrations decreased with depth and were less than surface soil concentrations except in the main treatment area of the facility. Cleanup levels for several analytes were exceeded at various locations and depths across the Oeser property. Only small amounts of contamination were detected in the South Slope and the Little Squalicum Creek subsurface soil, and no concentrations exceeded cleanup levels in those areas. Laser-induced fluorescence rapid optical screening data provided clear indications of contamination in isolated pockets, primarily around the treatment areas on the Oeser property. Little contamination found at depths greater than 10 feet below the surface.

Groundwater: Groundwater occurs in two zones beneath the site. Discontinuous pockets of perched shallow groundwater occurs to a depth of 15 feet below the surface. A deep groundwater aquifer occurs at a depth of 30 to 45 feet below the surface and likely discharges to Little Squalicum Creek and Bellingham Bay.

The hydrogeologic investigation associated with the Remedial Investigation study included monitoring well installation, groundwater sampling, well point installation, water level measurements, stream gauge measurements, seep sampling, hydraulic conductivity testing, and soil sampling. Both shallow and deep wells were sampled and analyzed for contaminants.

1. Discontinuous Perched Shallow Groundwater

Perched groundwater in the shallow zone is unlikely to be developed as a domestic water source in the future because it is discontinuous across the facility. However, since contaminant concentrations above the cleanup levels were found in the shallow zone and because the deeper aquifer may be a potential future source of domestic water, protection of the deep aquifer from contamination in the shallow perched aquifer also was evaluated.

2. Deep Groundwater Aquifer

During the remedial investigation, four quarterly samples were collected from several deep

aquifer wells. The deep aquifer was found to be slightly contaminated directly under the treatment facility on the Oeser property. Two wells located next to the treatment facility in the center of the Oeser property, had a few samples exceeding the residential Model Toxics Control Act (MTCA) Method B groundwater standard for Penta. One well also had one slight exceedance of the MTCA Method B groundwater standard for dioxin.

Generally, the extent and concentration of contaminants appear to have decreased in the deep aquifer since 1995. No contaminants were detected above cleanup levels in the deep groundwater samples collected from nearby off-property areas including the South Slope area.

Surface water and sediment: Little Squalicum Creek is located 250 feet south of the facility at its closest point. The creek flows from northeast to southwest and discharges to Bellingham Bay. The creek is primarily fed by local storm water drainage systems, including the Oeser outfall. The Oeser Outfall serves both the Oeser Company facility and the Birchwood neighborhood. During the dry season, the upper reaches of the creek dry up exposing the creek bed.

Surface water and sediment samples were collected in July 1999. A second round of surface water samples was collected in December 1999. Contaminants detected in surface water from Little Squalicum Creek included PAHs, chlorinated phenols, and dioxin. Benzo(a)pyrene, Penta, and dioxin exceeded aquatic-life-screening benchmarks. Other contaminant concentrations were less than available aquatic-life-screening benchmarks. All of these contaminants were considered in both the ecological and human health risk assessment which are discussed below.

Sediment concentrations at several locations in the creek exceeded background levels. At a few locations in the creek, concentrations of these contaminants exceeded conservative screening benchmarks for effects on benthic life; however, no adverse growth or survival effects were observed in sediment toxicity tests with laboratory-reared organisms.

Air: Three sets of air samples were collected during July 1999, with another three taken in September/October 1999. During both events, conditions were dry and dusty, and the facility actively was treating wood products. Air samples were analyzed for phenols, PAHs, dioxin, and volatile organic compounds (VOCs). VOCs were detected in samples collected within the Oeser property boundary and only benzene was detected at levels above conservative screening values in nearby off-property areas.

Berries and edibles: Berries growing along recreational trails were sampled in August 1999 to assess if eating them was a concern. Contaminant concentrations in the berries did not exceed risk based screening levels. Fish were not sampled because Little Squalicum Creek does not support fish, likely due to the creek's shallow depth, limited flow, and tendency to run nearly dry at times.

SCOPE AND ROLE

Oeser is an operating facility that is regulated under a NPDES permit for wastewater discharge and an air permit. The Oeser Company is also subject to and must comply with all applicable RCRA and the State of Washington Dangerous Waste requirements, including those for addressing the generation, treatment, storage, and disposal of hazardous waste. The CERCLA remedy will not relieve the Oeser Company of its responsibilities to comply with other regulatory requirements.

This proposed plan explains how the preferred remedy will protect human health and the environment by reducing exposure, controlling contaminated releases, and protecting potential drinking water sources. There is only one operable unit for this site and active remediation is only being proposed for certain areas located on the Oeser property.

SUMMARY OF SITE RISK

It is EPA's current judgement that the Preferred Alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment. A brief discussion of the human health and ecological risk is presented below.

Human Health Risk Assessment Summary

The human health risk assessment evaluated potential adverse health effects due to site-related contaminants. Wood-treating wastes, including PAHs (most of the compounds that make up creosote), Penta and dioxins/furans (contaminants found in Penta treating solutions), were the primary contaminants identified in surface and subsurface soil, groundwater, air, surface water, and sediment.

Current and future exposure scenarios were evaluated for workers on the Oeser property, on- and off-property residents, and nearby recreational visitors. Exposure to contaminants of potential concern derived from surface soil on the Oeser property was evaluated for the current Oeser Company worker. For the current nearby residents, exposure to contaminants in the surface soil and air were evaluated. Exposure to contaminants derived from nearby off-property surface soil, Little Squalicum Creek surface water and sediment, and air was evaluated for the current recreational visitor. For the future exposure scenario, exposure to contaminants derived from surface and subsurface soil and groundwater on the Oeser property was evaluated for both the Oeser Company workers and residents that could potentially live on the Oeser property in the future. Exposure to contaminants derived from surface and subsurface soil and Little Squalicum Creek surface water and sediment was also evaluated for the future recreational visitor. A summary of the human health risk assessment is provided below.

- Off-property Residential Investigation: To assess whether contamination is a problem outside the boundaries of the Oeser property, the investigation looked at yards and vacant land next to the Oeser property. Samples from yards were analyzed for organic chemicals

including dioxin. Results of the sampling were used to estimate cancer risk and the potential for non-cancer health problems. EPA assumed that people touched the soil, resulting in incidental ingestion of contaminated soil, and ate vegetables grown in backyard gardens. The results of this analysis indicated that risks are within EPA's acceptable range at existing residences in all cases. Risks in a background residential area were estimated for comparison purposes and are not statistically different from those in the area next to the Oeser property.

- **Recreational Scenario:** Risks also were estimated for an 8- to 18-year old who visits the Little Squaticum Creek twice a week for 11 years. These individuals were assumed to contact the soil along the trail and inhale particles released from soil, and contact sediment and surface water in the creek. The risk to these individuals was within EPA's acceptable range except for dermal contact with surface water, which was elevated because of the presence of dioxins and furans, PAHs, Penta, and conservative assumptions about the presence of contaminants that were not detected. Since the study, more restrictive stormwater discharge limits have gone into effect via the NPDES permit and the Oeser Company has implemented a new and more effective stormwater treatment process.
- **Industrial Scenario for the Oeser Property:** Risks were estimated for workers at the Oeser Company assuming that they ingest and dermally contact soil and inhale particles and vapors emitted from soil. Risks associated with worker exposures exceed EPA's acceptable range for a variety of areas under current and future conditions.
- **Air Assessment:** Air samples were collected on the Oeser property and along the fence line during typical operating conditions to determine whether concentrations of chemicals in air could impact people that live next to the facility. Based upon conservative assumptions, the cancer risks for residents located near the facility were within EPA's acceptable range; however, the potential for noncancer effects was slightly elevated above EPA's screening level at two locations along the northeast fence line.
- **Groundwater Assessment:** Groundwater underlying the Oeser property and the nearby neighborhood is not expected to be used as a source of drinking water in the future; however, EPA assumed that groundwater would be used by residents to determine if such use would result in unacceptable risks. While risks associated with future potential wells located on the Oeser property for drinking water were elevated, it is important to note that much of the risk was based upon conservatively assuming that one-half of the analytical detection limit was present for several contaminants that were not actually detected.

Ecological Risk Assessment Summary

During the Remedial Investigation, EPA also evaluated ecological risks associated with contamination from the Oeser Company facility to:

- creek sediment and water
- survival and growth of benthic life
- bioaccumulation of contamination in benthic organisms
- surface soil from the south slope and creek area

The Remedial Investigation found Oeser-related chemicals present in sediment and water in the creek and in soil from the south slope and creek banks. EPA used this data in a baseline ecological risk assessment to evaluate the following goals, known as assessment endpoints: (1) maintaining a healthy aquatic community (i.e. benthic life and other aquatic biota) typical of a small stream with seasonally limited flow; (2) maintaining healthy plant and soil-organism communities in the south slope and creek area; and (3) ensuring sufficient rates of growth, survival, and reproduction of songbirds and small mammals to sustain healthy populations in the south slope and creek area. The baseline ecological risk assessment concluded the following:

- **Benthic Life Risks:** Current levels of sediment contamination in Little Squalicum Creek do not appear to pose a threat to benthic life based on results of sediment toxicity tests with creek sediment. Test organism (*Hyalella azteca*) survival in sediment from the creek was high (78 to 93%) and no different than control samples. In addition, test organism growth was not impaired.
- **Other Aquatic Life Risks:** Surface water samples were collected from Little Squalicum Creek in July and December 1999. In July 1999, no chemicals in surface water were present at concentrations in excess of the State water quality criteria for aquatic life protection. In December 1999, the criteria for Penta and dioxins/furans were marginally exceeded at selected locations, likely as a result of higher concentrations of suspended sediment in the creek at this time. The bioavailability of particle-bound chemicals in surface water is low and facility related chemicals do not appear to pose a serious threat to the aquatic community.
- **Plant and Soil Fauna Risks:** No risks to plants or soil fauna from Penta were identified for the south slope or Little Squalicum Creek area. For PAHs, potential risks to plants and soil fauna appear to be limited to a single sample location on the north bank of Little Squalicum Creek.
- **Wildlife Risks:** Based on the results of a comprehensive sampling effort in the south slope and creek areas, small mammals and songbirds which feed extensively at one specific location on earthworms and other soil invertebrates (a situation that seems unlikely) may be at marginal risk from chemicals present in surface soil. However, because soil contamination is restricted to a small area, it is unlikely to pose a threat to

the greater population of small mammals and songbirds. Overall, Oeser-related chemicals do not appear to pose a serious threat to the local wildlife.

The assessment found that current levels of water and sediment contamination in Little Squalicum Creek do not pose a serious threat to a healthy aquatic community typical of a small stream with limited flow.

For plant and soil-organism communities, risks were identified only at a single sample location on the north bank of the creek. Elsewhere on the south slope and near the creek, plant and soil-organism communities should not be affected adversely by the presence of facility-related chemicals. For the health of small-mammal and songbird populations, the greatest potential risks were identified for the species feeding extensively on soil invertebrates.

REMEDIAL ACTION OBJECTIVES

Based upon the results of the human health and ecological risk assessments, EPA identified contamination requiring remedial action on the Oeser property. Contamination on the Oeser property exceeded the Model Toxics Control Act standards for both residential and industrial use. No cleanup action is needed off the Oeser property. Also, cleanup action is not necessary for the deep aquifer since groundwater is only marginally contaminated directly under the treatment facility. The selected alternative is expected to reduce the migration of contamination to the deep zone and monitoring of the deep aquifer will continue. As a first step in formulating a cleanup plan, EPA established three remedial action objectives for the Oeser Superfund site:

1. Remedial Action Objective #1 is to reduce ingestion, inhalation, and dermal contact with soil contaminants above industrial cleanup levels and reduce migration of soil contaminants that would result in deep groundwater contamination exceeding groundwater cleanup levels.
2. Remedial Action Objective #2 is to reduce ingestion and dermal contact with shallow groundwater, and reduce migration of contaminants from shallow groundwater that would result in deep groundwater contamination exceeding groundwater cleanup levels.
3. Remedial Action Objective #3 is to reduce ingestion and dermal contact with deep groundwater containing contaminants above groundwater cleanup levels and prevent off-property migration of groundwater with contaminants above CULs.

Table 1 contains the proposed cleanup levels for soil and groundwater. Cleanup levels for soil were derived from the risk assessment except for dioxin which is based upon the MTCA Method C industrial standard. The cleanup levels for groundwater are based upon the MTCA residential standards.

Table 1 Proposed Cleanup Levels For Soil and Groundwater

Contaminant of Concern	Site-Specific Cleanup Levels For Soil (mg/kg)	MTCA Cleanup Levels For Groundwater (Fg/L)
cPAHs ^a	8.9	0.012
Dioxins/furans ^a	0.000875 ^b	0.000000583 ^c
Pentachlorophenol	120	1
Naphthalene	262	160
TPH	1,100	500 ^d

Notes:

a = Clean up levels for cPAHs and dioxin/furans are respectively based on benzo(a)pyrene and 2,3,7,8-TCDD equivalencies.

b = The soil cleanup level for dioxins/furans is based on MTCA Method C for industrial properties.

c = Since the CUL for dioxins/furans is below the lowest achievable PQLs, the PQL will represent the CLU.

d = The cleanup level for TPH is based on MTCA Method A and applies to diesel range and gasoline range organics.

cPAHs = Carcinogenic polycyclic aromatic hydrocarbons.

mg/kg = milligrams of contaminant per kilogram of soil.

Fg/L = micrograms of contaminant per liter of water.

TPH = Total petroleum hydrocarbons.

The following figures are maps that show areas where contamination is above the cleanup levels for surface soil (**Figure 4**), subsurface soil 0 - 6 feet (**Figure 5**), subsurface soil 6 - 12 feet (**Figure 6**), and subsurface soil 12 - 23 feet (**Figure 7**).

Figure 4

THE OESER COMPANY
SUPERFUND SITE

Bellingham, Washington

Surface Soil Contamination
Greater Than Proposed
Cleanup Levels

Legend

B(a)P Sample Location

- 0 - 8.9 mg/kg (Below CUL)
- 8.9 - 89 mg/kg
- ≥ 89 mg/kg

Naphthalene Sample Location

- 0 - 262 mg/kg (Below CUL)
- 262 - 2620 mg/kg
- ≥ 2620 mg/kg

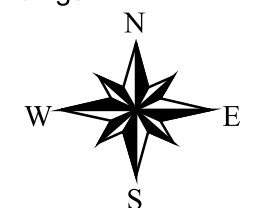
Dioxin Sample Location

- 0 - 875 ng/kg (Below CUL)
- 875 - 8750 ng/kg
- ≥ 8750 ng/kg

Pentachlorophenol Sample Location

- 0 - 120 mg/kg (Below CUL)
- 120 - 1200 mg/kg
- ≥ 1200 mg/kg

- Railroad
- Oeser Facility Layout
- Oeser Facility Areas
- Buildings



100 0 100 200 300 Feet

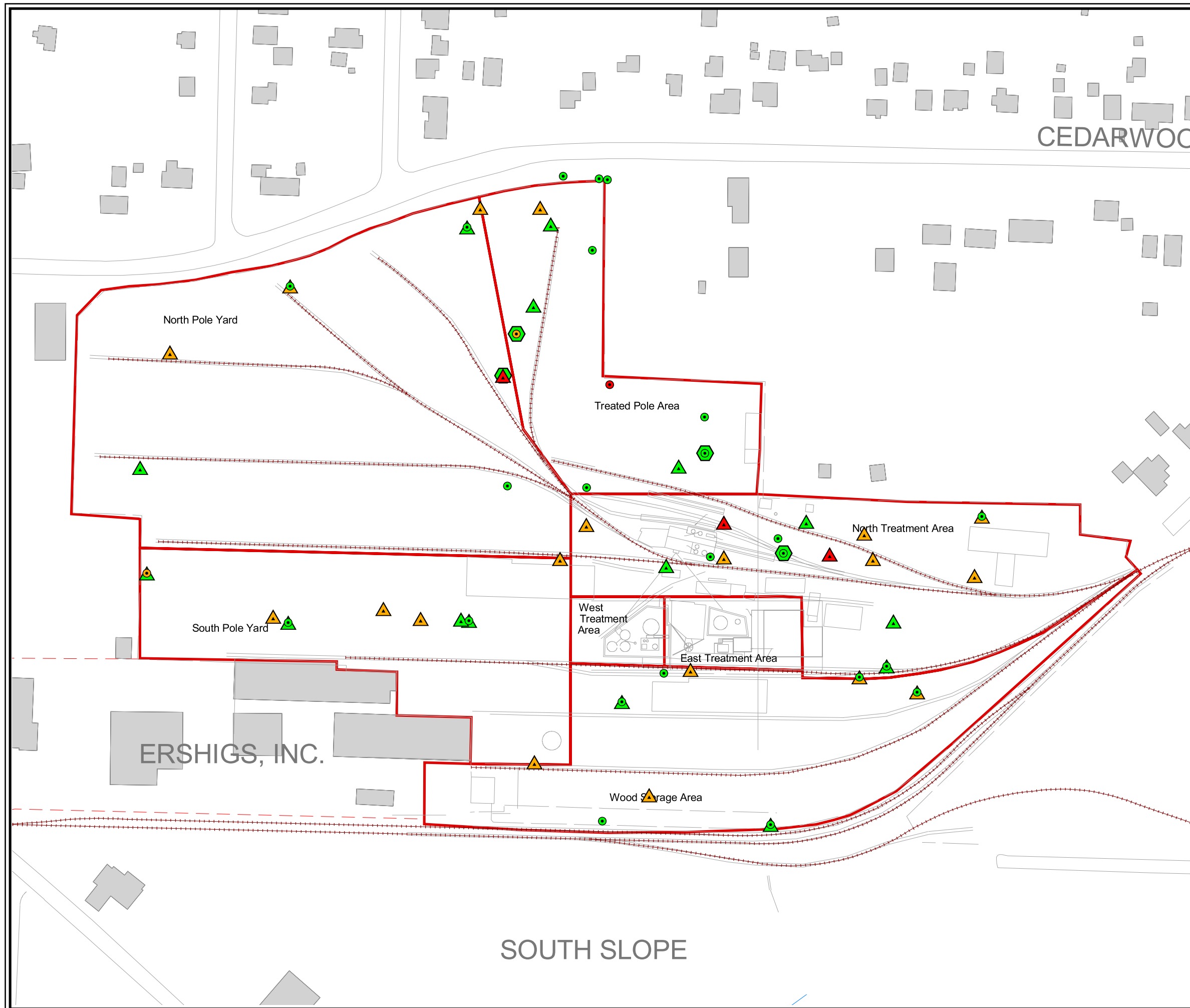


Figure 5

THE OESER COMPANY
SUPERFUND SITE

Bellingham, Washington

Subsurface Soil Contamination
Greater Than Proposed
Cleanup Levels
0 - 6 Feet

Legend

B(a)P Sample Location

- 0 - 8.9 mg/kg (Below CUL)
- 8.9 - 89 mg/kg
- ≥ 89 mg/kg

Naphthalene Sample Location

- 0 - 262 mg/kg (Below CUL)
- 262 - 2620 mg/kg
- ≥ 2620 mg/kg

Dioxin Sample Location

- 0 - 875 ng/kg (Below CUL)
- 875 - 8750 ng/kg
- ≥ 8750 ng/kg

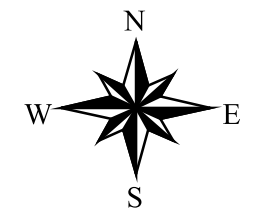
Pentachlorophenol Sample Location

- 0 - 120 mg/kg (Below CUL)
- 120 - 1200 mg/kg
- ≥ 1200 mg/kg

Railroad

Oeser Facility Layout

- Oeser Facility Areas
- Buildings



100 0 100 200 300 Feet

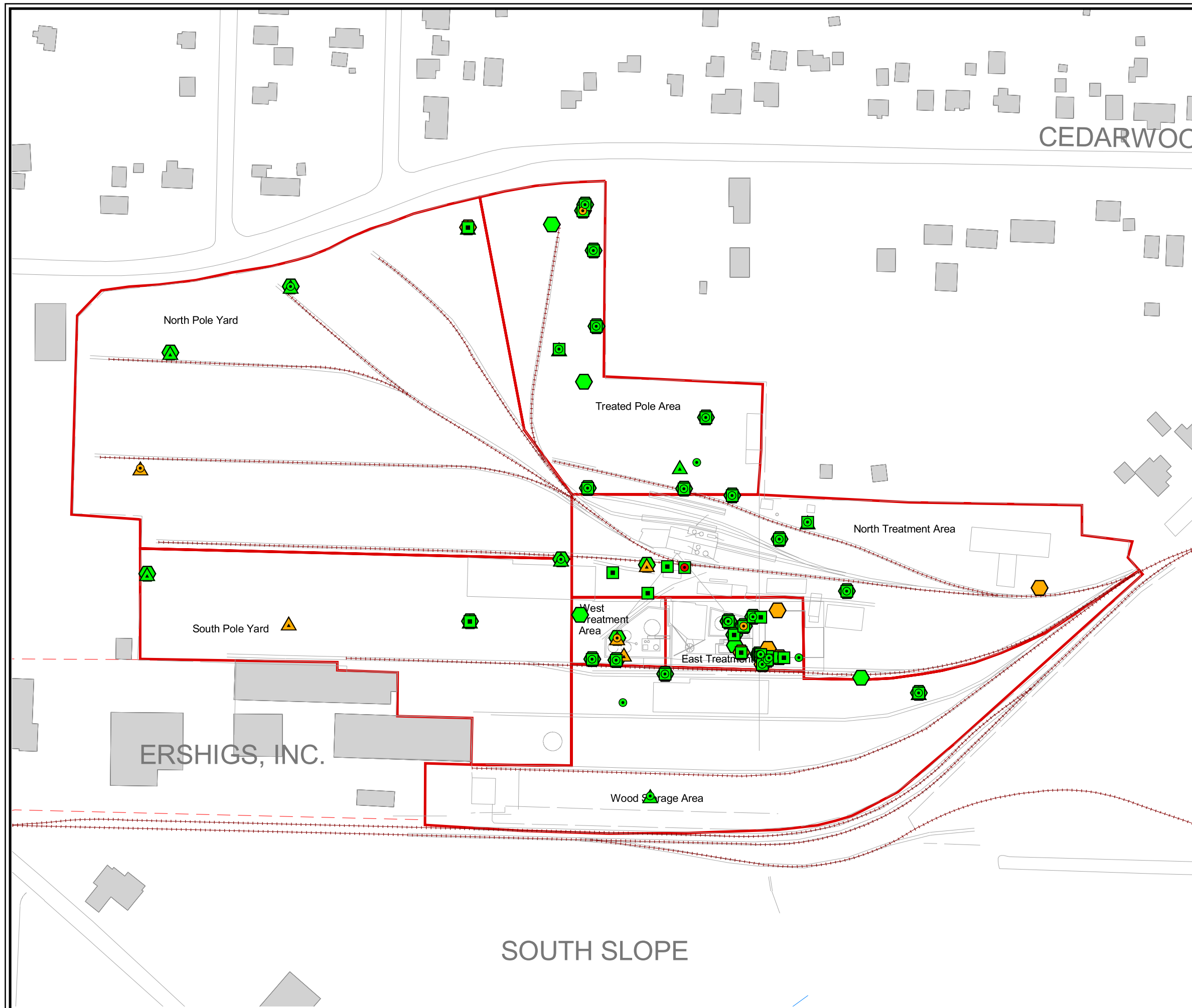


Figure 6

THE OESER COMPANY
SUPERFUND SITE

Bellingham, Washington

Subsurface Soil Contamination
Greater Than Proposed
Cleanup Levels
6 - 12 Feet

Legend

B(a)P Sample Location

- 0 - 8.9 mg/kg (Below CUL)
- 8.9 - 89 mg/kg
- ≥ 89 mg/kg

Naphthalene Sample Location

- 0 - 262 mg/kg (Below CUL)
- 262 - 2620 mg/kg
- ≥ 2620 mg/kg

Dioxin Sample Location

- ▲ 0 - 875 ng/kg (Below CUL)
- ▲ 875 - 8750 ng/kg
- ▲ ≥ 8750 ng/kg

Pentachlorophenol Sample Location

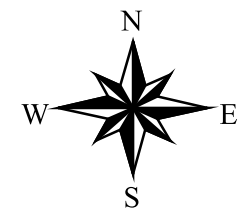
- 0 - 120 mg/kg (Below CUL)
- 120 - 1200 mg/kg
- ≥ 1200 mg/kg

--- Railroad

--- Oeser Facility Layout

■ Oeser Facility Areas

■ Buildings



100 0 100 200 300 Feet

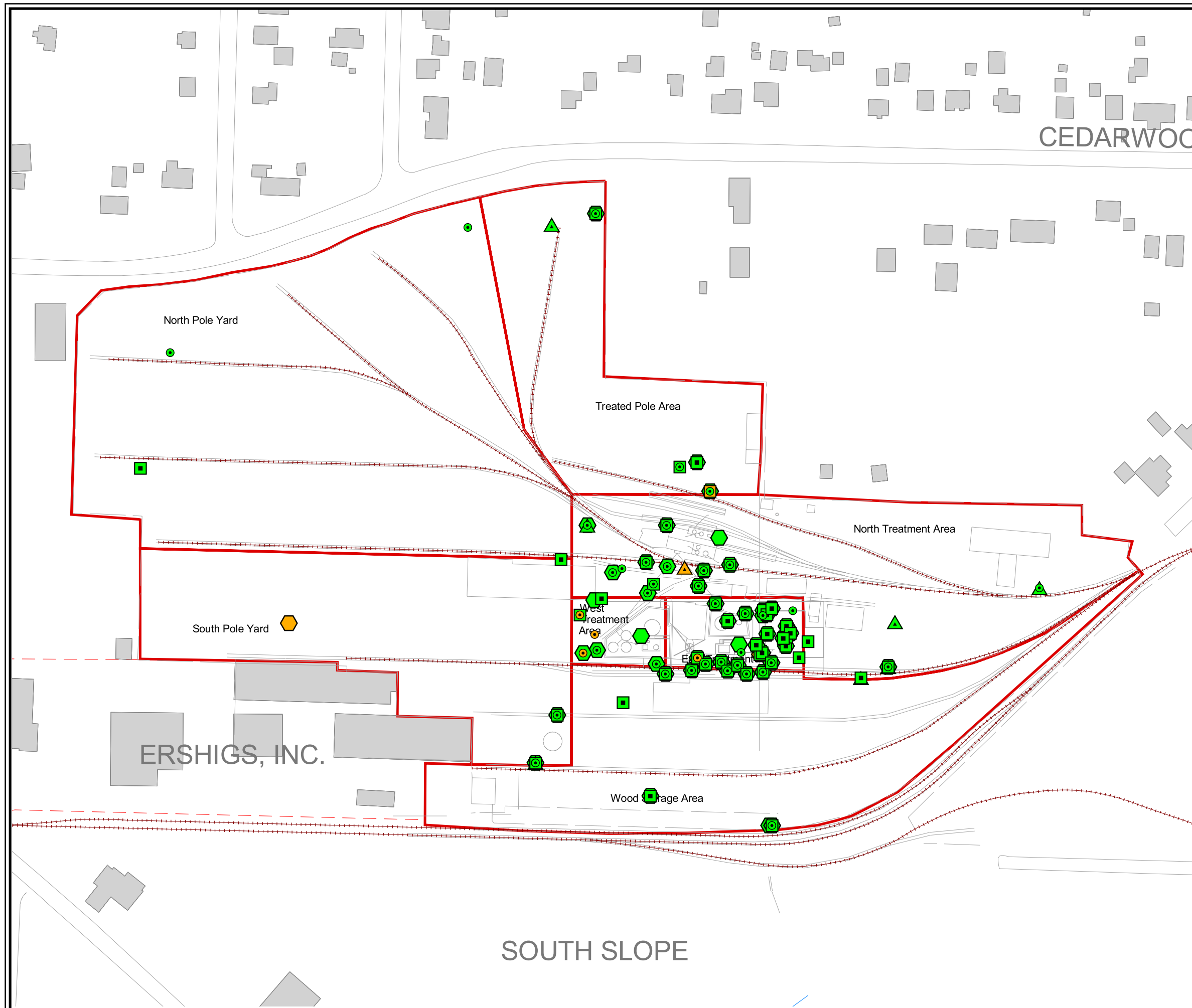


Figure 7

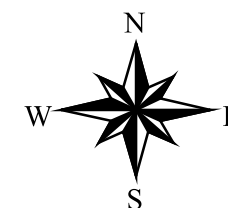
THE OESER COMPANY
SUPERFUND SITE

Bellingham, Washington

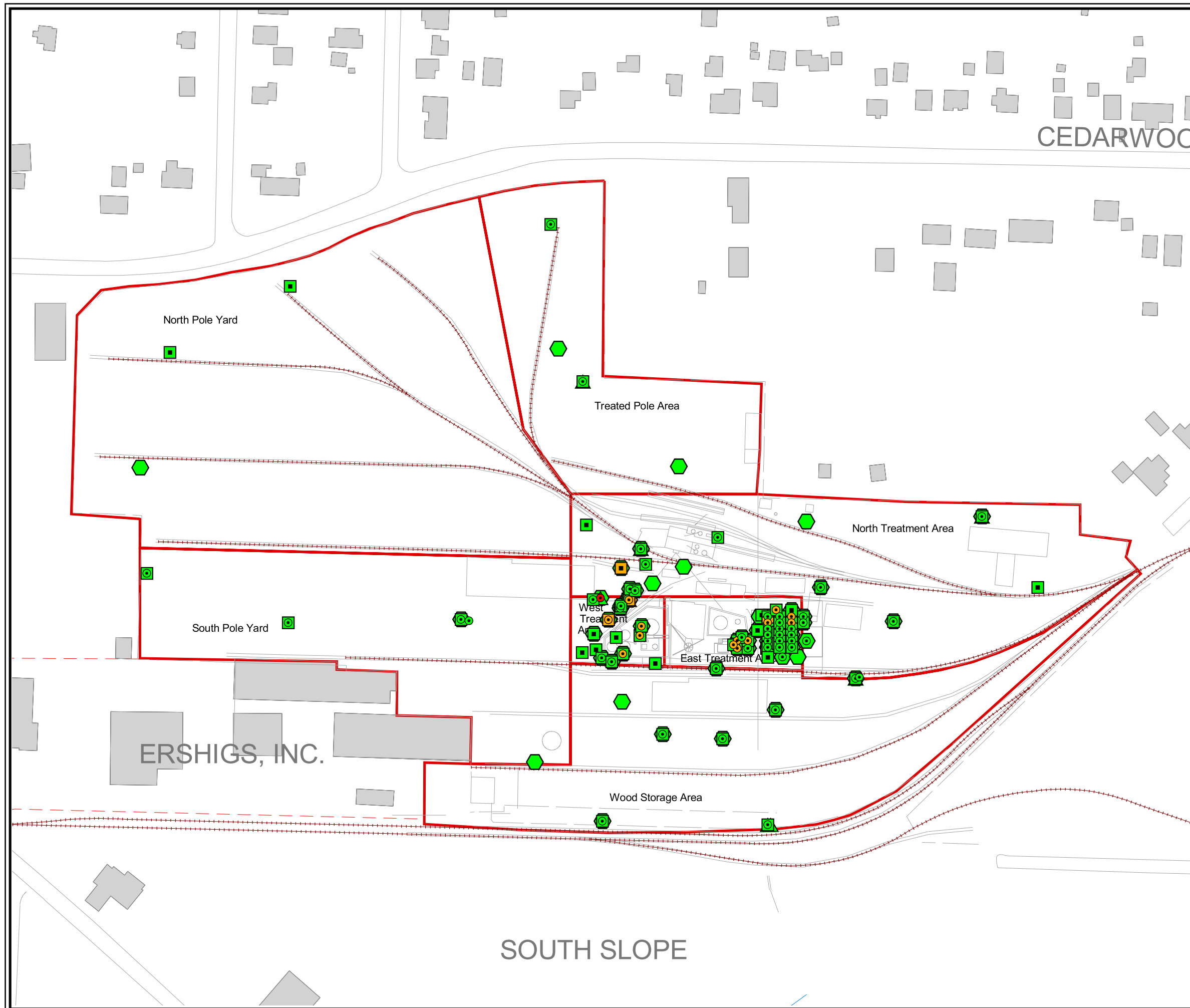
Subsurface Soil Contamination
Greater Than Proposed
Cleanup Levels
12 - 23 Feet

Legend

- B(a)P Sample Location
- 0 - 8.9 mg/kg (Below CUL)
 - 8.9 - 89 mg/kg
 - ≥ 89 mg/kg
- Naphthalene Sample Location
- 0 - 262 mg/kg (Below CUL)
 - 262 - 2620 mg/kg
 - ≥ 2620 mg/kg
- Dioxin Sample Location
- 0 - 875 ng/kg (Below CUL)
 - 875 - 8750 ng/kg
 - ≥ 8750 ng/kg
- Pentachlorophenol Sample Location
- 0 - 120 mg/kg (Below CUL)
 - 120 - 1200 mg/kg
 - ≥ 1200 mg/kg
- Railroad
- Oeser Facility Layout
- Oeser Facility Areas
- Buildings



100 0 100 200 300 Feet



SUMMARY OF ALTERNATIVES

In the Feasibility Study, EPA looked at existing cleanup technologies and determined which processes and options were appropriate for cleaning up contamination identified at the Oeser Company wood treating facility. Six alternatives, including one no-action alternative, were developed. Each alternative is briefly described below:

Alternative 1: No Action

This alternative is required under the National Contingency Plan. The no-action alternative is used as a baseline for comparison to the action alternatives. EPA's early cleanup action during 1997 and 1998, removed a significant amount of contaminated materials from the Oeser property and significantly improved the site conditions. However, the no-action alternative would not meet the Remedial Action Objective's (RAOs), and the remaining high levels of contamination on the Oeser property would not be addressed.

There is no cost associated with this alternative.

Alternative 2: Capping

The capping option consists of installing several new caps over approximately five acres of the most contaminated portions of the site, to inhibit rain and stormwater from flowing into the ground. The existing asphalt caps (approximately 6 acres) may also have to be enhanced by adding additional layers of capping materials. This option would significantly reduce the threat of contamination being washed down into the deep aquifer. Capping would also prevent workers from coming in contact with contaminated soil and would reduce the generation of dust. Capping is an easily implemented technology which will allow continued site operations although there probably would be some temporary disruption to the facility operations during construction. EPA estimates that construction of the new cap and the enhancement of the old asphalt would take less than one year. Limited excavation of contaminated soil and grading would be required prior to capping; therefore, the use of heavy equipment would be necessary. Stormwater and drainage from the newly capped areas would also have to be collected and treated to minimize the release of contamination to the creek and surrounding areas. Institutional controls and long term operations and maintenance measures would be implemented to ensure that the cap remains in good condition and continues to function as designed. Institutional controls would also be used to limit access and restrict non-industrial use (e.g. residential or recreational use) of the Oeser property, and to restrict the use of the deep groundwater underlying the Oeser property. Long term groundwater monitoring would also be implemented. During sampling events for the shallow aquifer, a passive contaminant removal system using oil-absorbing material in the well could be used to remove floating product.

The estimated capital cost for this alternative is \$2,876,800. The estimated average annual cost for operation and maintenance is \$93,000. The estimated Total Present Worth for the alternative is \$4,177,000.

Alternative 3: Soil Excavation

This alternative includes excavation and off-site disposal of approximately 40,700 cubic yards of contaminated soil. Removing contaminated soil from the Oeser property would eliminate the soil as a potential source of groundwater contamination. This action would also reduce contaminated soil exposure to workers. The use of heavy equipment would be required and operation of the facility would be disrupted. EPA estimated that the excavation of contaminated materials from the Oeser property, would take approximately one year. Some of the excavated soil would have to be treated prior to disposal. Institutional controls would restrict the use of deep groundwater underlying the Oeser property, and long-term monitoring would be implemented.

The estimated capital cost for this alternative is \$13,481,000. The estimated average annual cost for operation and maintenance is \$14,600. The estimated Total Present Worth for the alternative is \$13,717,000.

Alternative 4: Capping and Ex-Situ Groundwater Treatment

This alternative includes capping contaminated soil and treatment of shallow groundwater. Under this alternative, shallow groundwater would be extracted utilizing extraction wells or trenches on the Oeser property. Contaminated water would be treated using a carbon adsorption system. Treated water would then be discharged to either the local sewer system or to the creek under a NPDES permit.

Similar to Alternative 2, existing contamination would be capped (approximately 5 acres) with temporary disruption to the facility. The existing asphalt caps (approximately 6 acres) may also have to be enhanced by adding additional layers of capping materials. The use of heavy equipment would be required and the groundwater extraction system may require long-term operation and maintenance. However, the groundwater treatment system would not require significant space or labor to operate. Institutional controls would be used to restrict future non-industrial use (e.g. residential or recreational use) of the Oeser property, to limit access, and to restrict the use of deep groundwater underlying the Oeser property. In addition, groundwater would be monitored periodically. EPA estimates that construction of the new cap and the enhancement of the old asphalt would take less than one year and that the extraction and the entire treatment of shallow groundwater would take approximately 80 days.

The estimated capital cost for this alternative is \$3,224,500. The estimated average annual cost for operation and maintenance is \$93,000. The estimated Total Present Worth for the alternative is \$4,524,000.

Alternative 5: Ex-Situ Soil and Groundwater Treatment

This alternative includes excavation of approximately 40,600 cubic yards of contaminated soil. Approximately 35,000 cubic yards of contaminated soil would be treated on the Oeser property using bioremediation. A four-acre land treatment unit would be constructed on the Oeser property under this alternative. Excavation and off-site disposal also may be required in selected

areas to remove dioxin-contaminated soil, which bioremediation is less effective in treating. Shallow groundwater would be remediated in the same manner as Alternative 4. Shallow groundwater would be extracted utilizing extraction wells or trenches on the Oeser property. Contaminated water would be treated using a carbon adsorption system. Institutional controls would restrict the use of deep groundwater underlying the Oeser property and long term monitoring would be implemented. EPA estimates that the excavation and bioremediation of contaminated materials on the Oeser property would take approximately three to four years.

The estimated capital cost for this alternative is \$6,591,000. The estimated average annual cost for operation and maintenance is \$27,120. The estimated Total Present Worth for the alternative is \$7,155,000.

Alternative 6: Capping and Excavation (EPA's Preferred Alternative)

This alternative includes installation of a new cap over approximately 1.16 acres of contaminated soil located next to the operating facility, and the excavation and off-site disposal of approximately 3,400 cubic yards of soil of the remaining contaminated portions of the site above the proposed cleanup levels. The existing asphalt caps (approximately 6 acres) may also have to be enhanced by adding additional layers of capping materials.

This option would significantly reduce the threat of contamination being washed down into the deep aquifer, since the cap would inhibit rain and stormwater from flowing into the ground. This alternative would also prevent workers from coming in contact with contaminated dirt and would reduce the generation of contaminated dust. Capping and excavation are easily implemented technologies, and will allow for continued site operations although there probably would be some temporary disruption to the facility. However, excavation of contaminated soil and grading for the cap construction would require the use of heavy equipment. EPA estimates that soil excavation, construction of the new cap, and the enhancement of the old asphalt would take approximately one year. Stormwater and drainage from the newly capped area would also have to be collected and treated to minimize the release of contamination to the creek and surrounding areas.

Institutional controls and long term operation and maintenance measures would be implemented to ensure protectiveness of the cap. Institutional controls would also be used to restrict non-industrial use (e.g. residential or recreational use) of the Oeser property, to limit access, and to restrict the use of the deep groundwater underlying the Oeser property. Long term groundwater monitoring would also be implemented. During sampling events for the shallow aquifer, a passive contaminant removal system using oil-absorbing material could also be used to remove floating product and contamination from the wells.

The estimated capital cost for this alternative is \$2,700,000. The estimated average annual cost for operation and maintenance is \$71,000. The estimated Total Present Worth for the alternative is \$3,719,000.

EVALUATION OF ALTERNATIVES

EPA used the nine criteria required by CERCLA and the NCP to evaluate and select a preferred alternative for the Oeser Superfund Site. The first seven of the criteria are used to evaluate all the alternatives. A summary of the evaluation is provided in **Table 2**. Comments received on this proposed plan will be used to evaluate the preferred alternative for Community Acceptance.

1. Overall Protection of Human Health and the Environment

Alternatives were assessed for the degree to which each alternative eliminates, reduces, or controls threats to human health and the environment through treatment, engineering methods (e.g., geosynthetic capping), or institutional controls (e.g., access restrictions).

2. Compliance with State and Federal Regulations

The alternatives were evaluated for compliance with environmental protection regulations determined to be applicable or relevant and appropriate to the site conditions.

3. Long-term Effectiveness

The alternatives were evaluated based on their ability to maintain reliable protection of human health and the environment after implementation.

4. Reduction of Contaminant Toxicity, Mobility, and Volume Through Treatment

EPA evaluated each alternative based on how it reduces through treatment, the harmful nature of the contaminants, their ability to move through the environment, and the amount of contamination.

5. Short-term Effectiveness

The length of time needed to implement each alternative was considered, and EPA generally assessed the risks that implementation of a particular alternative may pose to workers and nearby residents (e.g., would contaminated dust be produced during soil excavation?).

6. Implementability

EPA considered the technical feasibility (e.g., the difficulty of the alternative to construct and operate) and administrative ease (e.g., the amount of coordination with other government agencies that is needed) of a remedy, including the availability of necessary goods and services.

7. Cost

The relative costs of implementing a particular alternative were weighed against each other.

8. State Acceptance

Since the Superfund site is located in the State of Washington, EPA has already consulted with the Washington State Department of Ecology's on the proposed plan. The State concurs with EPA's preferred alternative.

9. Community Acceptance

EPA assesses community acceptance of the preferred alternative by giving the public an opportunity to comment on the remedy selection process. A public comment period is held, and EPA considers and responds to comments received from the community prior to the final selection of a remedial action.

COMPARISON OF ALTERNATIVES

1. Overall Protection of Human Health and the Environment

Alternative 1 would not satisfy the NCP threshold criteria for overall protection of human health and the environment. With respect to contaminated soil at the site, Alternative 3 and 5 would be most protective of human health and the environment because all soil containing contaminants in excess of the proposed CULs would be removed or treated, significantly reducing the possibility of direct contact with contaminated soil and removing the source of potential future groundwater contamination. Alternatives 2, 4, and 6 also are protective with respect to the risks posed by contaminated soil. Alternatives 2, 4, and 6 would leave existing soil contamination in place but would achieve RAOs through the implementation of institutional controls and by reducing the potential for direct contact with contaminants and limiting contaminant mobility. Since several of the contaminated areas would be excavated under Alternative 6, it would be more protective of human health and the environment than Alternatives 2 and 4.

Alternatives 4 and 5 would be slightly more protective with respect to shallow groundwater contamination, but because the total mass of contamination in shallow groundwater is low relative to the mass in soil, the extraction and treatment of shallow groundwater would not significantly increase the overall protection to human health and the environment. Each of the five action alternatives include the same institutional controls for the deep groundwater and therefore would be equally protective in that respect.

The alternatives that would be most protective of human health and the environment overall in order from most protective to least protective are as follows: Alternative 3, Alternative 5, Alternative 6, Alternative 4, Alternative 2, and then Alternative 1.

2. Compliance with ARARs

Alternative 1 would not comply with ARARs. The other five action alternatives would comply with ARARs including the requirements set forth in RCRA, MTCA, and Washington State Dangerous Waste regulations. Alternatives 2, 4, and 6 also must comply with federal and state NPDES requirements associated with design and control of surface water flow, which are not included in the other alternatives. Alternative 5 also includes Washington State Dangerous Waste Regulations and RCRA requirements for land treatment.

Ongoing operations would continue to be subject to all regulatory requirements governing such operations, including but not limited to RCRA, Washington States Dangerous Waste

requirements and NPDES requirements. Each of the five action alternatives would require property and groundwater use restrictions. In the case of The Oeser Company's property, restrictive covenants would be required. In summary, with the exception of Alternative 1, all of the action alternatives would be equally compliant with ARARs.

3. Long-Term Effectiveness and Permanence

Long-term effectiveness concerns two primary factors: the magnitude of the residual risk remaining from untreated contaminants and the risks remaining at the conclusion of remedial activities. Although natural attenuation of contaminated soil and groundwater would occur under Alternative 1, the risk levels associated with the site would not be reduced for a very long time. Alternatives 3 and 5 would be more permanent and effective over the long-term than Alternatives 2 and 4 because instead of simply reducing contaminant mobility (Alternatives 2 and 4), the contamination would be removed. Alternative 6 would be less permanent and effective than 3 and 5, but more so than 2 and 4. The adequacy and reliability of caps are dependant on frequent inspection and proper maintenance. Thus, regular inspections and maintenance of the cap would be required under Alternatives 2, 4, and 6, but would not be required for excavation under Alternative 3 or for ex-situ treatment under Alternative 5. Shallow groundwater contamination would be addressed more effectively and permanently through Alternatives 4 and 5 (extraction and treatment) than through Alternatives 2, 3, and 6.

To summarize, the long-term effectiveness and permanence of the alternatives in order of most effective and permanent to the least are as follows: Alternative 3, Alternative 5, Alternative 6, Alternative 4, Alternative 2, and then Alternative 1.

4. Reduction of Toxicity, Mobility, or Volume Through Treatment

Except by the mechanism of natural attenuation, the toxicity, mobility, and volume of soil contamination would not be reduced through Alternative 1, and the potential for future migration of contaminants to groundwater would remain unchanged. The volume and mobility of soil contamination would be reduced significantly by Alternatives 2, 3, 4, and 6, but not through treatment. The only alternative that would reduce toxicity, mobility, and volume of both soil and groundwater contamination through treatment is Alternative 5. Under Alternative 5, upper-zone groundwater would be treated and some of the contaminated excavated soil would be biologically treated on-site. Alternative 4 would also reduce the toxicity, mobility, and volume of the upper-zone groundwater contamination through treatment.

5. Short-Term Effectiveness

There are more short-term impacts associated with Alternatives 3, 5, and 6 than Alternatives 2 and 4; although, all five action alternatives involve heavy equipment operation and increases in traffic, dust generation, and noise. Alternatives 3, 5, and 6 would require the development of extensive health and safety protocols to minimize the hazards associated with excavation and/or demolition. Because contaminated soil would remain on site under Alternative 5, the potential for direct exposure to the contaminated soil would remain until treatment is complete.

The estimated operational periods for each action alternative increase progressively. It is estimated that under Alternatives 2, 4, and 6 it would take one month to install the cap. Under Alternative 3, it is estimated that it would take three months to excavate; under Alternative 6, it is estimated that excavation would be completed in one month; and under Alternative 5 it is estimated that excavation would take four months and bioremediation would last approximately five years.

All of the action alternatives involve the use of heavy equipment; however, Alternatives 3, 5, and 6 would require more attention to health and safety protocols than Alternatives 2 and 4. In summary, short-term effectiveness associated with implementation of alternatives from the highest to the lowest are: Alternative 2, Alternative 4, Alternative 6, Alternative 3, Alternative 5, and then Alternative 1.

6. Implementability

Alternative 1 requires no implementation. Alternatives 2 and 4 would be the easiest to implement. Although re-grading and drainage control may be required for Alternatives 2, 4, and 6, all the necessary equipment, materials, and contractors are readily available in the vicinity of the site. Coordination with The Oeser Company would be required to minimize disruption to the operation of the facility.

Alternatives 3 and 5 would require the Oeser Company to relocate the wood treating facilities to a different part of the site or to cease operations until the remedial construction is completed. If The Oeser Company facility shut down operations, it would be easier to implement Alternatives 3 and 5 but these alternatives would involve the use of heavy equipment over a longer period of time than the other alternatives. Additionally, the implementability of ex-situ bioremediation (Alternative 5) would need to be demonstrated during treatability testing. Although this technology has been effective at other sites with similar contaminants, the technology's site-specific effectiveness must be demonstrated by bench-scale and/or pilot-scale studies.

Alternative 6 would require some excavation and therefore is more difficult to implement than Alternatives 2 and 4, but more easily implementable than Alternatives 3 and 5. With respect to implementability, the alternatives in order of the easiest to implement to the most difficult to implement are as follows: Alternative 2, Alternative 4, Alternative 6, Alternative 3, and then Alternative 5.

7. Cost

There are no costs associated with implementing Alternative 1. The capital cost and total present worth for Alternatives 2, 4, and 6 are similar and are the lowest of the action alternatives. The capital cost and total present worth of Alternative 5 are significantly higher than Alternatives 2 and 4, but are substantially less than the total capital cost and total present worth of Alternative 3.

Although the capital costs associated with Alternatives 2, 4, and 6 are the lowest of the action alternatives, the annual O&M costs and the annual O&M present worth are the highest of the five

action alternatives. The increased O&M cost for Alternatives 2, 4, and 6 is due to the increased monitoring and maintenance activities associated with implementing the three alternatives. The annual O&M costs for Alternative 5 are higher than the O&M costs for Alternatives 2, 4, and 6 during treatment but decrease significantly after treatment of the excavated soil is complete. Because the annual O&M costs for Alternative 5 decrease substantially after completing treatment, the annual O&M present worth of Alternative 5 is less than the annual O&M present worth of Alternatives 2 and 4. The annual O&M cost and annual O&M present worth of Alternative 3 are the lowest of the action alternatives as only limited environmental monitoring is associated with the long-term operations of this alternative.

The overall present worth of each alternative is calculated by summing the capital cost and the annual O&M present worth. The total present worth for the other alternatives was calculated assuming 30 years of operation and maintenance and a discount rate of 5%. The alternatives with the lowest present worth to the highest are as follows: Alternative 1, Alternative 6, Alternative 2, Alternative 4, Alternative 5, and then Alternative 3.

Summary of the Comparison of Alternatives

Table 2 contains a summary of the comparison of alternatives for the threshold and balancing criteria. The threshold criteria which must be met in order for the alternative to be eligible for selection are 1) overall protection of human health and the environment; and 2) compliance with ARARs. The balancing criteria which are used to weigh major trade-offs among alternatives are 3) long term effectiveness and permanence; 4) reduction of toxicity, mobility, or volume through treatment; 5) short term effectiveness; 6) implementability; and 7) cost. A more detailed discussion of this evaluation is available in the Feasibility Study portion of, The Oeser Company Superfund Site Remedial Investigation and Feasibility Study Report. This report is available at the EPA record center, and the Oeser Superfund Site Repository in the Bellingham Library.

TABLE 2
COMPARATIVE ANALYSIS SUMMARY
THE OESER COMPANY SUPERFUND SITE
BELLINGHAM, WASHINGTON

Criterion	Alternative 1: No Action	Alternative 2: Capping	Alternative 3: Excavation	Alternative 4: Capping and Ex-Situ Groundwater Treatment	Alternative 5: Ex-Situ Soil and Groundwater Treatment	Alternative 6: Capping and Excavation
Overall Protection of Human Health and the Environment	Not protective	Protective	Protective	Protective	Protective	Protective
Compliance with ARARs	No	Yes	Yes	Yes	Yes	Yes
Long-Term Effectiveness and Permanence	Not Effective	Effective	Effective	Effective	Effective	Effective
Reduction of Toxicity, Mobility, or Volume Through Treatment	No Treatment	No Treatment	No Treatment	No Treatment for Soil. Some Treatment for Groundwater.	Some Reduction in Toxicity, Mobility, and Volume of Soil and Groundwater Contamination.	No Treatment
Short-Term Effectiveness	Not applicable	Effective	Moderately Effective	Effective	Moderately Effective	Effective
Implementability	Easily Implemented	Easily Implemented	Implementation Would Disrupt Current Operations.	Moderately Implementable	Implementation Would Disrupt Current Operations	Easily Implemented
Present Worth Cost^a	No Additional Costs	\$4.2 million	\$13.7 million	\$4.5 million	\$7.2 million	\$3.7 million

Key:

a = The Present Worth Cost for each alternative was calculated assuming a discount rate of 5% and that O/M would be conducted for a period of 30 years.

ARARs = Applicable or relevant and appropriate requirements.

PREFERRED ALTERNATIVE: Alternative 6 - Capping and Excavation

Capping and excavation is an easily implemented technology, which is not expected to significantly disrupt current site operations (see **Figure 8**). However, excavation of contaminated soil and grading for the cap construction would require the use of heavy equipment (see **Table 3**). EPA estimates that soil excavation, construction of the new cap, and the renovation of the old asphalt would take approximately one year. Institutional controls to restrict future non-industrial uses (e.g. residential or recreational use), limit access, and restrict the use of deep groundwater underlying the Oeser property would be a necessary element of this alternative. Long term operations and maintenance measures would be implemented to ensure the continued protectiveness of the cap, and groundwater monitoring would be implemented as necessary.

TABLE 3			
AREAS PROPOSED FOR CAPPING AND VOLUMES PROPOSED FOR EXCAVATION THE OESER COMPANY SUPERFUND SITE BELLINGHAM, WASHINGTON			
Subarea	Subarea Size	Proposed Cap Size	Proposed Excavation Volume
North Pole Yard	8.53 acres	None	820 cubic yards
South Pole Yard	3.93 acres	None	870 cubic yards
Treated Pole Area	2.99 acres	None	1,300 cubic yards
North Treatment Area	4.53 acres	None	340 cubic yards
West Treatment Area	0.41 acres	0.06 acres	None
East Treatment Area	0.63 acres	0.05 acres	None
Wood Storage Area	4.59 acres	1.05 acres	40 cubic yards
Total	25.61 acres	1.16 acres	3,370 cubic yards

Capping and excavation combined with institutional controls would be effective in reducing vertical infiltration of water into the contaminated soil and reducing the possibility of site personnel and the community coming into direct contact with contamination on the Oeser property. Because the shallow groundwater zone is discontinuous and there is minimal lateral movement of groundwater, active pumping and treating of shallow aquifer (Alternative 4) would be difficult to implement effectively and is not warranted. Instead, under Alternative 6, a passive contaminant removal system using oil-absorbing material in selected wells would be implemented and would be about as effective as an active system. Because the deep aquifer is only slightly contaminated directly under the Oeser property and capping will limit any potential migration, active treatment is not necessary. The cost of this alternative is low relative to the

Figure 8

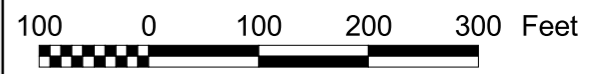
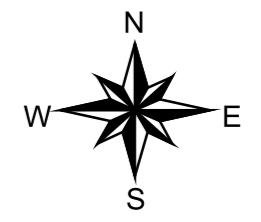
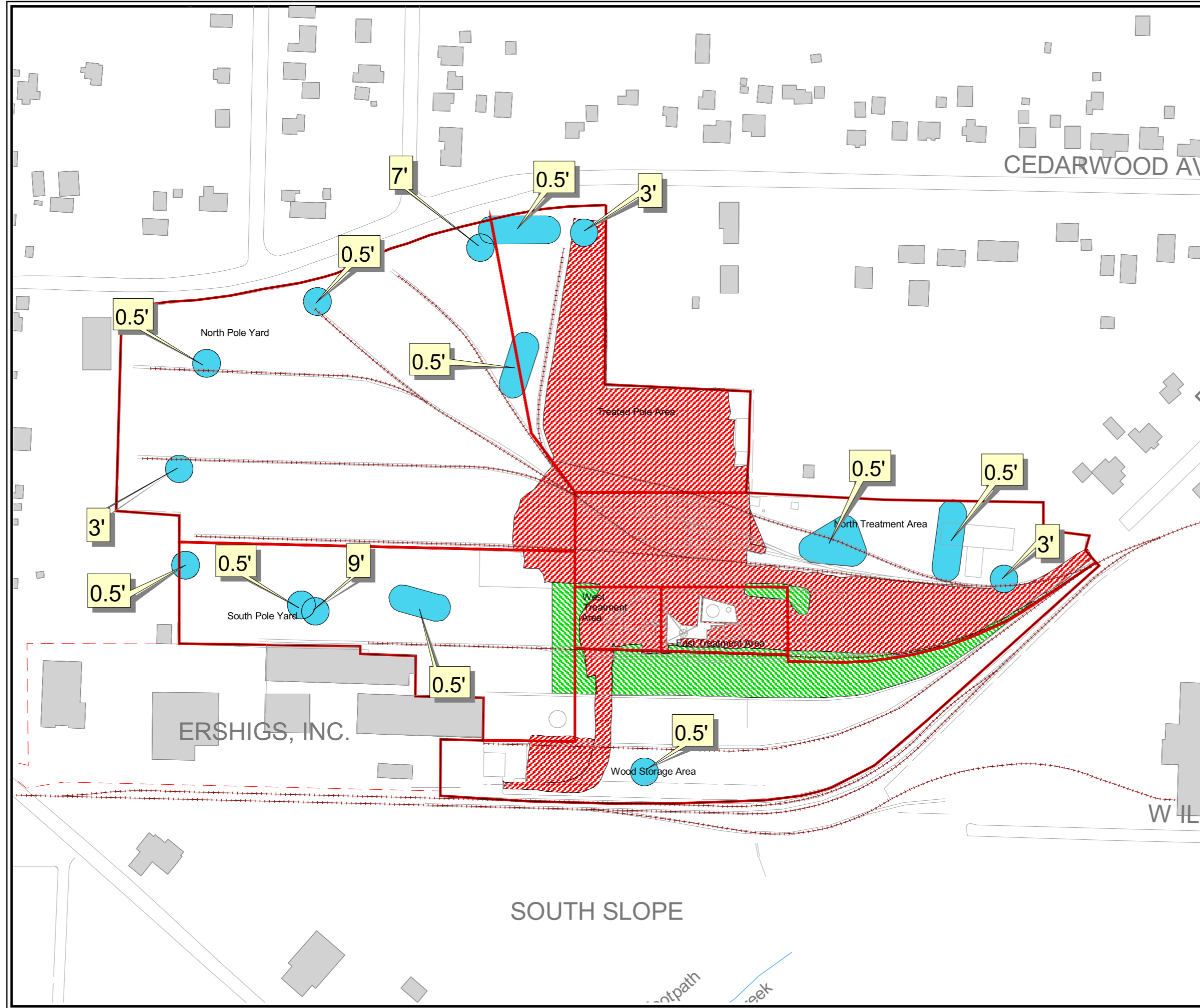
THE OESER COMPANY
SUPERFUND SITE

Bellingham, Washington

Areas Proposed for
Excavation and Capping

Legend

- Railroad
 - Oeser Facility Areas
 - Oeser Facility Layout
 - Buildings
- Proposed Remedy
- Proposed Capping
 - Proposed Excavation
 - Existing Asphalt
 - Excavation Depth in Feet



other action alternatives.

Based upon conservative risk calculations, one of the soil samples from the spoils pile located along Little Squalicum Creek had an elevated risk to the ecosystem, primarily due to PAHs. Field investigations revealed that the location was heavily overgrown by various species of grasses, shrubs, and vines, and there was no visible evidence that the vegetation was stressed. Since the contamination is restricted to a small area, it represents an insignificant threat to the greater population of small mammals and songbirds that use the creek area and South Slope. In addition, active remediation would cause significant damage to the existing vegetation in the area. Because of the above considerations, active remediation of the small area is not warranted.

Based on information currently available, EPA believes the Preferred Alternative (Alternative 6 - Capping and Excavation) meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. EPA expects the Preferred Alternative to satisfy the following statutory requirements of CERCLA §121(b): 1) be protective of human health and the environment; 2) comply with ARARs; 3) be cost effective; and 4) utilize permanent solutions and alternative treatment technology or resource recovery technologies to the maximum extent practicable for this site. Because treatment of the principle threats at the site was not found to be practicable, the Preferred Alternative does not satisfy the preference for treatment as a principal element of the remedy.

COMMUNITY PARTICIPATION

Local knowledge and the needs of the community play a part in deciding what cleanup actions are appropriate, so EPA has strived to make sure community members have adequate information about the site to be an informed participant in the decision making process. EPA must also meet CERCLA requirements for public participation including releasing and providing a public comment period on the Remedial Investigation and Feasibility Study (RI/FS) Reports and the Proposed Plan.

A variety of community involvement activities have taken place at the Oeser site over the past several years. A Technical Assistance Grant was awarded to the Oeser Cedar Cleanup Coalition, which has participated in the development and review of technical information during the RI/FS. The following Superfund community relations activities were conducted by EPA for the Oeser Superfund site:

August 1995	EPA fact sheet about the beginning of the site investigation
April 1996	EPA fact sheet announcing significant contamination found during the expanded site investigation.
December 1996	EPA fact sheet announcing that the Site has been proposed for inclusion on EPA's National Priorities List (NPL).

COMMUNITY PARTICIPATION (CONTINUED)

August 1997	EPA fact sheet announcing an Unilateral Administrative Order has been issued for Oeser to conduct a removal action.
January 1998	EPA released a <i>Community Relations Plan</i> to encourage community involvement.
June 1998	EPA fact sheet describing removal actions that EPA was conducting.
July 1998	Technical Assistance Grant awarded to Oeser Cedar Cleanup Coalition
October 2000	EPA released a fact sheet announcing a Community Informational Meeting and describing the start of the Remedial Investigation and Feasibility Study.
October 18, 2000	EPA conducts a Community Information Meeting for concerned citizens.
May 2002	EPA fact sheet announcing the results of the risk assessment.

Upcoming and ongoing activities:

December 2002	EPA will announce a formal opportunity for public review and comment of the Proposed Plan and supporting documents through notice to the project mailing list, and advertisement in the Bellingham Herald. A public meeting will be held to provide an opportunity for the community to ask questions and give oral comments to EPA.
Winter/Spring 2003	A responsiveness summary, which will become part of the Record of Decision, will be prepared in response to comments received during the public comment period.